

Notice of Allowability**Application No.**

09/647,749

Examiner

Christopher Nichols, Ph.D.

Applicant(s)

PERT ET AL.

Art Unit

1647

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 28 August 2003.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☒ The drawings filed on 28 August 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
* Certified copies not received: _____.
5. ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
(a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No. _____.
(b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
(c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____ | 6 <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other _____ |

DETAILED ACTION

Status of Application, Amendments, and/or Claims

1. The Amendment filed 28 August 2003 has been received and entered in full. Claim 4 has been amended and claims 8-10 have been added.

Withdrawn Objections And/Or Rejections

2. The Objection to the Drawings as set forth at pp. 2 ¶3 in the previous Office Action (12 May 2003) is *withdrawn* in view of Applicant's proposed corrections (28 August 2003).
3. The Objection to the Specification as set forth at pp. 2 ¶4 in the previous Office Action (12 May 2003) is *withdrawn* in view of Applicant's amendments (12 March 2001).
4. The Rejection of claims 2-7 under 35 U.S.C. §112 ¶1 as set forth at pp. 3-6 ¶5-15 in the previous Office Action (12 May 2003) is *withdrawn* in view of Applicant's response (28 August 2003).

EXAMINER'S AMENDMENT

5. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
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Claim 1 (Currently Amended) A peptide of the formula Leu-Glu-Ser-Tyr-Thr (SEQ. ID NO: 1) or Ile-Lys-Glu-Tyr-Phe-Thr-Ser (SEQ. ID NO: 2).

Claim 2 (Currently Amended) A pharmaceutical composition comprising as an active ingredient at least one peptide of the formula Leu-Glu-Ser-Tyr-Thr (SEQ. ID NO: 1) or Ile-Lys-Glu-Tyr-Phe-Thr-Ser (SEQ. ID NO: 2) or a pharmaceutically acceptable salt thereof.

Claim 3 (Previously Amended) The pharmaceutical composition of claim 2 further comprising a pharmaceutically acceptable carrier.

Claim 4 (Currently Amended) A method for treating the symptoms caused by GP120 mediated neurotoxicity comprising administering to a person suffering from HIV infection a therapeutically effective amount of a ~~people~~ peptide of formula Leu-Glu-Ser-Tyr-Thr (SEQ. ID NO: 1) or Ile-Lys-Glu-Tyr-Phe-Thr-Ser (SEQ. ID NO: 2).

Claim 5 (Currently Amended) The method of claim 4 wherein the formula is Leu-Glu-Ser-Tyr-Thr (SEQ. ID NO: 1).

Claim 6 (Currently Amended) The method of claim 4 wherein the formula is Ile-Lys-Glu-Tyr-Phe-Thr-Ser (SEQ. ID NO: 2).

Claim 7 (Currently Amended) The method of claim 4 wherein the peptide is administered by oral, intranasal, buccal, parenteral, topical, or rectal administration.

Claim 8 (Currently Amended) The method of claim 4 wherein the peptide is administered at from 0.01_mg to 1000 mgs per day.

Claim 9 (Previously Added) The method of claim 4 wherein the peptide is administered at from 0.2 mg to 10 mg per day.

Claim 10 (Currently Amended) A method for treating the symptoms caused by a loss of neurons resulting from Alzheimer's disease comprising administering a therapeutically effective amount of a ~~people~~ peptide of formula Leu-Glu-Ser-Tyr-Thr (SEQ. ID NO: 1) or Ile-Lys-Glu-Tyr-Phe-Thr-Ser (SEQ. ID NO: 2).

6. Authorization for this examiner's amendment was given in a telephone interview with William Sapone (Reg. No. 32518) on 7 October 2003.

7. In the first line of the Specification:

This application is a 371 of PCT/US99/07514 filed 6 April 1999 which claims benefit of 60/080,836 filed 6 April 1998.

Allowable Subject Matter

8. Claims 1-10 are hereby allowed.

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9. The Examiner acknowledges that acceptance of the above Examiner's Amendment does not mitigate in any way, shape, or form, Applicant's right to pursue additional subject matter in continuation, continuation-in-part, and/or divisional applications pursuant to 35 U.S.C. §120 and §121.

10. The following articles, patents, and published patent applications were found by the Examiner during the art search while not relied upon are considered pertinent to the instant application:

- a. US 5972883 (26 October 1999) Gozes & Fridkin
- b. US 5641746 (24 June 1997) Steinman
- c. US 6239107 B1 (29 May 2001) Gozes & Fridkin
- d. US 6217886 B1 (17 April 2001) Önyüksel & Rubinstein
- e. US 5567682 (22 October 1996) Pert
- f. US 2003/0113270 A1 (19 June 2003) Clark
- g. EP 0 620 008 A1 (19 October 1994) Gozes & Fridkin
- h. Gozes *et al.* (January 1996) "Neuroprotective strategy for Alzheimer disease: Intranasal administration of a fatty neuropeptide." PNAS **93**: 427-432
- i. Fournier *et al.* (May-June 1982) "400 MHz NMR study on the C-terminal fragment of 21-28 of vasoactive intestinal peptide." Peptides **3**(3): 345-352
- j. Said *et al.* (February 1998) "Enhancement of Systemic and Pulmonary Vasoconstriction by β -Amyloid Peptides and its Suppression by Vasoactive Intestinal Peptide." Annals of the New York Academy of Sciences **865**: 582-585

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- k. Onoue *et al.* (August 2002) "The neuropeptide PACAP attenuates beta-amyloid (1-42)-induced toxicity in PC12 cells." Peptides **23**(8): 1471-1478
- l. Gozes *et al.* (24 April 1997) "Neuropeptides and neuronal survival: neuroprotective strategy for Alzheimer's disease." Annals of the New York Academy of Sciences **814**: 161-166
- m. Yanaihara *et al.* (March-April 1984) "Immunochemical study of PHI/PHM with use of synthetic peptides." Peptides **5**(2): 247-254
- n. Veljkovic *et al.* (15 December 1992) "Spectral and sequence similarity between vasoactive intestinal peptide and the second conserved region of human immunodeficiency virus type 1 envelope glycoprotein (gp120): possible consequences on prevention and therapy of AIDS." Biochemical and Biophysical Research Communications **189**(2): 705-710
- o. Hagjoo *et al.* (November-December 1996) "Solution Structure of Vasoactive Intestinal Polypeptide (11-28)-NH₂, a Fragment with Analgesic Properties." Peptide Research **9**(6): 327-331
- p. Romualdi *et al.* (May-June 1989) "Vasoactive Intestinal Polypeptide Carboxy-Terminal Fragment, VIP(22-28), and Other Fragments of VIP, in the Central Nervous System of the Rat." Peptides **10**(3): 621-626
- q. Goossens *et al.* (January 1992) "Antagonistic effect of a vasoactive intestinal peptide fragment, vasoactive intestinal peptide(1-11), on guinea pig smooth muscle relaxation." Molecular Pharmacology **41**(1): 104-109

- r. Gozes *et al.* (September 1997) "Protection against developmental retardation in apolipoprotein E-deficient mice by a fatty neuropeptide: implications for early treatment of Alzheimer's disease." J Neurobiol. **33**(3): 329-342

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Christopher James Nichols, Ph.D.** whose telephone number is 703-305-3955. The examiner can normally be reached on Monday through Friday, 8:00AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Gary Kunz, Ph.D.** can be reached on 703-308-4623. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications. The fax phone numbers for the customer service center is 703-872-9305

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

CJN
October 7, 2003